Release 2.0

Software version 2.0 is a major upgrade to further enhance the capabilities of the 10K and 20K character generators. It improves current operation, adds many new features and will serve as a platform for more timely software updates in the future. While making changes, we have been careful not to change the current operation of the software unless absolutely necessary. You won't have to learn a brand new machine.

There are many changes and improvements in software version 2.0. This note summarizes the most important new features; you can read about them in detail in the new user's manual that accompanies the software.

When you are ready to start using version 2.0, make a new work disk in the following way:

If you want to use an Iomega:

- take a new diskette, copy your current work disk onto it.
- Using your current software, install the program from your version 2.0 diskette onto the copy of the work disk.
- Reboot using version 2.0.
- After you boot, log out again using <Confg><Y><S>.

If you want to use floppies:

- Copy the two version 2.0 disks to work disks (use <Disk Util><D>).
- Boot the program using disk 1 followed by disk 2 (you will be prompted).

Version 2.0 occupies more disk space than older versions, so if your work disk is almost full, version 2.0. may not fit. Start over with a clean disk in that case. Version 2.0 has disk reorganization software, but it is better to get it installed before you use new features.

Now you are ready to use 2.0 for graphics. We will first describe major differences from previous software revisions; then we will describe new features. Again, you can find full descriptions in the new user's manual.

Press reset and boot up the system. You will notice that the layout of the <Compose> screen has changed. Those of you with multiple disk drives should note that messages and fonts can now be kept on separate drives. The <Compose> screen also lists your SIN and the current keyer state. The system no longer boots up with color bars on the color output. Use <Misc><D><S><Enter> to put up color bars.

For information on how to contact us at DCS, press <Help> in <Compose> mode.

Run the sequence "<SeqPlay>DEMO<Enter>" to see some of the new features of version 2.0.

What's improved

You can now reboot from the keyboard (!). Hold <Esc> down and hit <b>.

NB: Insert mode has changed to match most PC's. The insert key toggles between insert and typeover mode. Once you are in insert mode, you stay there until you hit the insert key again. You do not leave insert mode when you hit an arrow key or a function key. Insert mode now logs out with other data.

Wordprocessor influences! There are several new keystrokes for moving the cursor when you are composing pages of text. <Alt><Arrow key> will move the cursor to that side of the screen. I.e., <Alt><Right> will move the cursor to the right side of the page, etc. <Alt><Home> (and <Alt><Down> will move the cursor to the bottom of the page. <Shift><Right> (<Shift><Left>) will move the cursor to the beginning of the next (previous) word. Also see the <Confg> screen for WordWrap.

<Shift><Del> now deletes to end of line. <Text><D> did this (and still does).

Roll speeds are now slower. There are now, hopefully, more usable speeds with fewer artifacts.

Keyer states have expanded (see the <Confg> screen). Instead of just "Linear" or "Hard key", you can specify a hard key, normal linear key, or shaped linear key. A hard key is either on or off. Shaped linear key has R,G,B values multiplied by the key signal (transparent colors are thus always black); normal linear key does not have the multiplication by key. GVG and Ampex switchers use "normal" video; Cox and some foreign switcher manufacturers use "shaped" video.

You can now change the safe-title aspect ratio -- <Config><S>. The safe title area now longer has to be 80% of the screen in height or width. Be careful -- you can now make the safe title area small enough to be unusable.

You can specify an XON/XOFF protocol on the port configuration screen -- <Config><P>. Note that there are many more uses for ports. Note that the word "CBG" changed to "DATA I/O"; the function hasn't changed.

The narrow and wide filters for anti-aliased font scaling from masters have been improved. If you wish to take advantage of the new filters, you will have to resize your fonts. (But try the "K"-program described below to make your job easier). We have removed the restriction keeping you to 150 scan lines.

There are new sequencer commands. "A1" through "A9" run an animation one through nine times before proceeding to the next command. Repeat larger blocks of effects by using loops. Start a block with "loop" and a repeat count; end the loop with "done". The block of

effects between the "loop" and "done" will be repeated "count" times. Do not nest loops.

You can now clear all tabs at once. Press <Text><L> to do so.

You can now save magnified pictures -- <Bkgd><M>. You can move the background around with the arrow keys at magnification factor "1".

Animation combine -- <Bkgd><C> -- remembers where it was when it runs out of memory, records the finished page and prompts with the appropriate new starting point.

In Presentation Graphics, the line chart is now drawn with a brush and looks quite a bit better. You can use the <Bkgd> and <Text> keys to manipulate the "Chart Foreground", "Edge" and "Drop shadow" text and chart elements and to place text on pie charts. The default colors are prettier.

Many bugs have been fixed in the K-Paint subsystem. When you are creating color ramps, the system asks you how many colors to use; this allows creation of ramps using fewer colors than before.

What's new (standard features)

Some of the new features of version 2.0 are available to all; others must be purchased as options.

Several new disk utility commands on the <DiskUtil> menu let you maintain your graphics database and deal with problems with the disk. The verify and check commands have been moved to the <DiskUtil> menu from <Misc><D>. The verify command tells you about disk errors; the check command looks for directory inconsistencies. A reorganize command will compact your data on a fragmented disk so all free space is contiguous. If a 95% full disk says "Disk is full", you can do something about it. A rebuild command allows you to recover data from clobbered disks (rebuild can also recover deleted messages if they haven't been overwritten).

Version 2.0 supports multiple disk drives -- you can put your fonts on one disk and all other messages on another. Use <Dir><S> to select the appropriate drives. Version 2.0 supports bigger disk option from 20-Meg Iomegas to 300 Meg Winchesters.

Use <Dir><T> to convert messages made on other DCS machines so they can be displayed on the 20K.

The new Send/Receive function allows you to send messages, pictures, etc. between 10K's, 20K's and 30K's over serial lines. Find this function on the <Dir> screen. "<I>" is for the input side, "<O>" for the output side.

You can hook up an Epson MX-80 or TI 850XL protocol dot-matrix printer to a serial line and print directory listings, sequences, tab messages, text messages, font maintenance information, "K"-programs and any screen (hold down <Esc> and press <P>).

Version 2.0 supports the EMEM interface to the GVG 200 switcher.

A mosaic command -- Bkgd><A> -- will create interesting animations of backgrounds. See the DEMO sequence for some examples.

The move command -- <Bkgd><O> -- lets you position backgrounds by specifying vertical and horizontal offsets.

The K-series can now keep time! Commands to manipulate analog and digital clocks can be found on the <Bkgd><L> screen. Up to four digital clocks can be counting up (or down) on-screen. The system also can run analog clocks (the kind with hands).

The new "magmove" command -- <Bkgd><G> -- allows you to create an animation of any background moving in 2-D space (without K-Pnt option) or in 3-D space (with the K-Pnt or K-Dig options). With "magmove", for instance, you can make a letter spin in from off-screen to its on-screen position.

The <Do> key, new in version 2.0, is positioned directly under the <Bkgd> key (see the new manual, Appendix A, for placement). Many single line commands now exist for those of you who don't want to walk through menus. Many <Do> commands are useful in "K" prgrams. Read the manual for a list of <Do> commands and how to use them. One command we're sure you'll want to investigate is "xform", which lets you transform a background to an arbitrary position in 3-D space.

What's new (options):

Several new options that significantly increase the power of the K-series machines are now available with version 2.0:

The "K" programming language allows you to write your own programs for the "K" series (anyone with version 2.0 can play back any "K" program). Those programs may be as simple as macros created in "Learn" mode that combine keystrokes together or as complicated as database manipulation environments. "K" lets you control the creation and program the machine so it can work on long tasks without your intervention. A simple "K" program has been included for you to try. Type "<Do>BBALL<Enter>" to try one out.

The RGB scanner option allows a K-series machine to scan in **color** print pictures. These pictures can be scaled or magnified to fit on a television display screen. There is a sample scanner picture on the version 2.0 distribution disk. This option is not available for 10K machines.

Finally:

Version 2.0 is a bigger program than previous K-series software releases. Some animations that ran without delays in older versions may not fit with version 2.0. We are working to correct that drawback.

Do not erase all older software revisions. It is good practise to keep one copy around "just in case".

20-K Software Version 2.1

June 15, 1990

The new 2.1 software release significantly improves the capabilities of your 20-K character generator. It includes many new features and corrects errors of prior releases.

Summary of Important Features

We have made major changes within the character generator that also significantly improve performance. Thus

- Typing over backgrounds is up to five times faster than before.
- Characters and rows can be shifted much faster over blank (screen color) screens as well as over backgrounds.
- K-Paint brushes are 40% faster.

Other new features include:

- You can reduce the number of colors in RGB backgrounds, (standard feature — see the command `qrgb`).
- The new optional Backgrounder 3 and 4 packages contain marble, wood and metal textures and frames. They can be quantized `qrgb` for use with anti-aliased fonts.
- The RGB Scanner and large capacity Wren disk drive are fully supported. (They have been for some time.)
- A macro set for WordPerfect on your PC is now available. You can type credit rolls on your portable and play them back.

Important

Serial Communication

The 20-K now announces serial communication errors when it encounters them. There are three communication errors:

Framing Error on port A, (or B, C, or D)
Parity Error on port A, (or B, C, or D)
Overrun Error on port A, (or B, C, or D)

These refer to various asynchronous communication errors reported by the UART. These errors can occur when you get an actual error or when your serial port configuration is incorrect. **Confg P**.

The 20-K configures the parity of keyboard ports correctly at startup. It identifies keyboards via the `Usage` you assign on the **Confg P** menu. The proper configuration for the standard keyboard is `Odd` parity; for the deluxe keyboard, `None`.

You may see occasional errors either on bootup or when serial cables are being disconnected. You need only be concerned if serial errors are frequent.

Other Improvements

- Backgrounder 3 and 4 options are available for K-series machines (except the 5-K).

- A new command reduces the number of colors in a ppic. See `qrgb`.

- Character capture, **Bkgd H** now only allows creation of fonts up to 500K in size. Much larger fonts were causing problems when the system tried to load them for typing. If you are adding characters to a font and run out of room, start another font.

- A preset color font now types with up to 250 colors. All earlier software versions typed a maximum of 128 colors.

- Opacity in palette mode **Pal O** can now be set to 0. Previously, 1 was the lowest possible value.

- We've increased the number of possible characters on the screen from 650 to 800. Displays with small fonts (particularly in PAL) occasionally ran out of room in the text buffer.

- A loop-until-trigger is now implemented in the sequencer. Surround the effects you wish to be repeated with a `loop 0` command and an `end`. The sequencer repeats the effects until it encounters a GPI trigger or **Home**.

- **Read** (within the sequencer) now works the way it did in version 1.6. If the sequencer is stopped for a trigger, **Read** immediately initiates a read of the current image. Previous 2.0 software had merely stopped the sequencer and **Read** had to be pressed a second time.

- **Text R** and **Text P** (retype row and page) gave up when they encountered a font different from the one on which the cursor was positioned. The commands now continue searching to the end of the row (or page) for further characters to retype.

- Pressing **Newline** on a blank page multiple times no longer results in the error `Inserting active link`.

- If a drive `out=` is not specified in a Do command, the system uses the selected message drive. All such optional drive designations have been moved to the end of the Do command. Recheck all **Do** commands that use the disk for changes in the order of parameters.

- K commands `input` and `output` now work properly.

- The **Bkgd C** combine command no longer inexplicably runs out of memory when attempting to combine large ppics into animations. Note that the maximum animation page size is now approximately 500K. Remember that multiple animation pages can be played together using the sequencer.

- The 20-K handles running out of colors more gracefully. If you are using eight levels of anti-aliasing and you run out of colors, the 20-K automatically reduces to four levels before totally giving up. The reduction stays in effect until the next **Erase Text**.

- Four level anti-aliased typing **Confg A** is available and works properly. To change anti-aliasing levels, type **Confg A**; the 20-K cycles between 4, 8, and 16 levels.

- The 20-K logs out and restores the alternate keyboard language correctly **Confg U**.

- An on-line operation switch **Confg O** disables K-Paint and Presentation Graphics. **Confg O** is a toggle that enables/disables **Paint** and **Graph** when on-air. If you then accidentally hit either key, the system doesn't start up these subsystems.

- Presentation Graphics and K-Paint now recognize **Quit** immediately.

- Growing Bars work in the Sequencer (Presentation Graphics).

Magmove / Xform

- We've deleted the Z axis scale. It is not needed.
- On-air picture breakup no longer occurs when recording ppics.
- Unless the nojag filter is specified, neither Magmove nor `xform` ask about averaging odd-length runs.
- `xform` now handles a blank screen properly.
- Magmove now recovers from disk errors.
- You can now do two Magmoves in a row without rebooting.

Clocks

- You can start and stop clocks with GPI triggers.
- Clocks set up cleanly in the sequencer.
- There is now a default clock, so you are no longer required to specify a template. New menus provide more information. Help screens (press **Help**) are now available.

Quantize/Scanner

- **Bkgd Q** now handles Keyblack in DPS-1 and CBG third plane images.
- The Scanner option includes Keyboard paint.
- Scanner aspect ratio was not perfect. Circles now scan as circles.
- The `scan` command now always starts with a full platen scan.
- A new `lastscan` command starts with a scan of the current FROM box.
- We've deleted the temporary function **Bkgd K**.

K-Paint

- `Any fill`. The `Any fill` fills from the ***seed point*** to any painted border. Indicate the seed point with a pen or **Enter**. The border can be composed of several different brush strokes. Try drawing a rectangle, changing brush color, drawing a divider through the rectangle and then filling one of the open spaces. Such a fill was not previously possible.

- For a full-screen box, type **F** (ramps, rectangles, etc.).

- Grphx/Rect and Grphx/Ellipse now start off with a square and a circle respectively. The shape of these objects is now initially constrained, so if you change their size, they will stay a square or a circle. To create other shapes, press **Centr**. To revert to a square or circle from rectangle or ellipse press **=** (i.e. Height=Width).

- You no longer need to bring the palette up to change brush colors. Simply press the selector corresponding to the paint pot that contains the color you want.

- Font fixer now stamps all characters to a consistent baseline rather than to the center of each character. This displays textured fonts more evenly.

- We've fixed several errors in fills. Complex series of fills now work more consistently. Memory allocation problems — `Not enough contiguous memory to paint` — have been corrected.

- Cursor motion from the keyboard has been greatly improved. The cursor no longer takes large, unexpected jumps.

- The default paint colors are less saturated. (Many of the previous default could not be broadcast in NTSC.)

- The saturation bar on the palette no longer jumps around when you move the value bar.

- It is no longer possible to crash K-Paint by making an extremely narrow ellipse cursor.

- We've reworded all the K-Paint menus that appear on the diagnostic monitor to improve clarity. K-Paint menus match the new Options manual.

-> qrgb

Description: Weave text (if any) onto the background, then reduce the colors on the screen to the specified number of colors.

Also see:

Menu: Not available

```
qrgb  colors
```

PARAMETER	DESCRIPTION	DEFAULT
colors	Number of colors to reduce the ppic to	

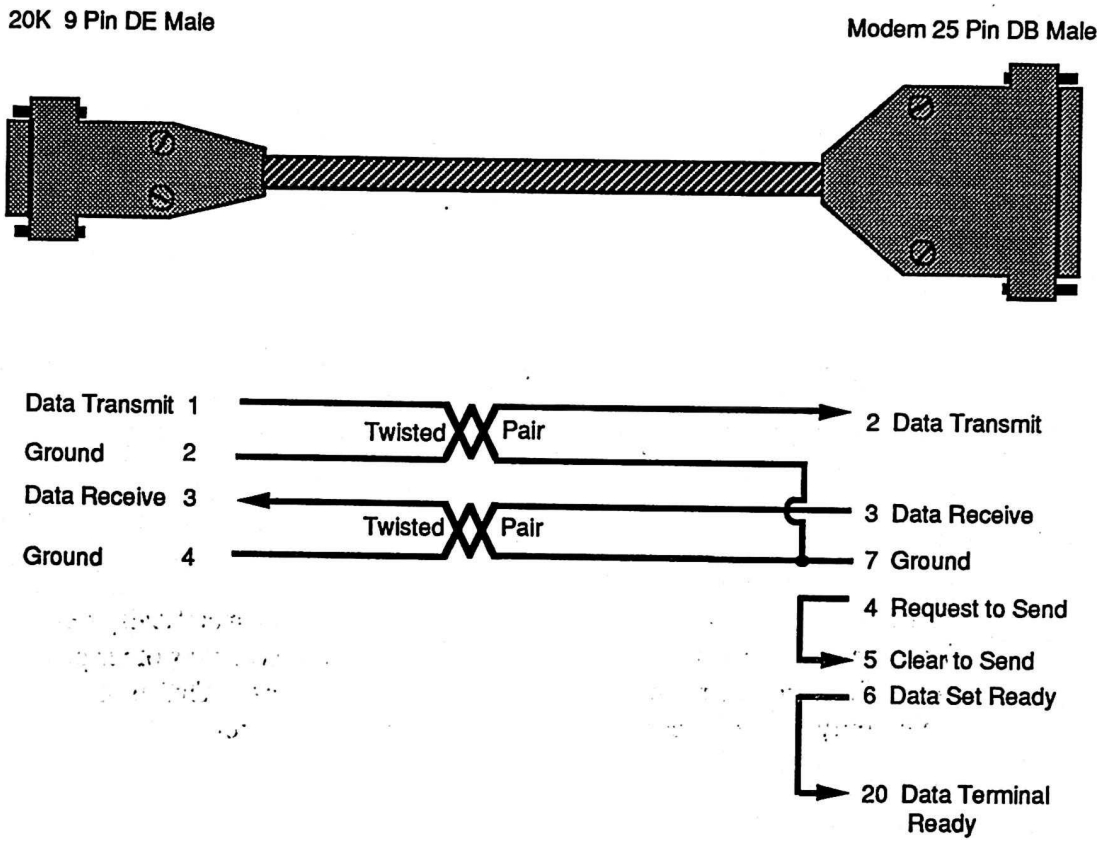
Note:

Some optional Backgrounder 3 and 4 ppics have areas specifically designed for typing and may not require as large a reduction of colors as other pictures. Some Backgrounders may require as few as 20 colors. This is a decision which only the artist can determine through trial and error.

Updated Cabling Diagram

Substitute this diagram for the 20-K to Modem Cabling diagram in the 20-K User's Guide.

20-K to Modem RS 232 Cable



K-series Software Version 2.1.2

July 18, 1990

Version 2.1.2 corrects certain problems found in version 2.1.1. The release notes for version 2.1 (June 15, 1990, which include version 2.1.1) still apply.

Bugs fixed:

- Typing no longer leaves pieces of cursor on the screen.
- Reading a text message with no text on the top row no longer causes the system to crash.
- Totally transparent text colors (opacity 0) are now allowed. The system no longer makes them opaque.
- Reading certain ppics - the top few lines would disappear. This has been corrected.
- Quantize works correctly. It had been making the image too dim.
- K-Paint square brush of size 1 (one pixel) now paints the proper pixel.
- 30K two plane rolls - screen color on the on-air plane will now always be correct at the start of the roll.

Other new features include:

- Character capture now asks if the image has a transparent border. If, for example, you are capturing the letter 'A', you normally would want the area outside the letter to be transparent. Therefore, answer 'yes'. The program will identify the first pixel in the upper left-hand corner of the box as being 'outside' the character and make all pixels of that color transparent. If on the other hand, you wish to capture the entire contents of the box as your image, answer the question 'no'. The program will then capture everything within the box as opaque colors.

Also, please note:

- K-Paint - When colors are changed using global color change from the pad, the sliders on the palette don't move even though the colors change. This problem is not present when performing the change from the keyboard. This problem will be fixed in the next release.

- 10K only - Entering K-Paint or Presentation Graphics will cause any sequence in memory to be removed from memory. Record any sequence you wish to save before entering K-Paint or Presentation Graphics.

20-K

Software Version 3.1A

29 January 1993
Part No. 155054-01

THE GRASS VALLEY GROUP®
Graphics Systems Division
6 Forest Avenue
Paramus, NJ 07652

A TEKTRONIX COMPANY

20-K Software Version 3.1A

Software version 3.1A for the Grass Valley Group 20-K character generator has been released to correct several problems found soon after the release of version 3.1.

New Features

- The Convert Messages function (**Dir T**) has a new field:

  `Add noise ->`

  `yes`
  adds noise to the picture, giving a smoother look. However, the picture may be more complicated (and thus take up more disk space) and may require more colors to look acceptable.

- In a K program, the command `getstring` accepts **New-Line** as well as **Enter**.

Fixes

- When typing text, 20-K no longer reports `Inserting active link` or `Removing head of link`.
- "Convert Messages" no longer fails to convert imag files created on a DSS (Still Store).
  - "Convert Messages" no longer fails to convert imag files created on a VideoDesigner. (Note: This requires VideoDesigner version 2.4. 20-K function, "Convert Messages," does not convert imag messages created with VideoDesigner software prior to version 2.4.)
- Recording an image captured with a scanner no longer crashes the 20-K.
- **Misc D W**, the diagnostic "Quick Warp," no longer crashes the 20-K.
- The keyboard layouts for `Dvorak and Esperanto`, removed in version 3.1 have been restored.
- Executing a command from a sequence no longer corrupts the sequence status display.
- **Bkgd A**, "Mosaic," when used with certain large backgrounds, no longer crashes the 20-K.

20-K

Software Version 3.1

21 December 1992
Part No. 155054-00

THE GRASS VALLEY GROUP®
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20-K Software Version 3.1

The 3.1 software release for the Grass Valley Group 20-K character generator adds several significant new features, while also correcting problems in prior releases.

Note: If you have recently purchased $1000.00 or more of new software (i.e., fonts, Backgrounders) for the first time, you could be receiving ***boot proms and new software.*** Install these new boot proms into your 20-K and operate with the new software.

New Features

- K-Paint is now standard
- You can read files from and write files to DOS disks with the new command `dos`
- Version 3.1 has a completely new message conversion function. With **Dir T** you can process:
    - `text` and `tab` messages, to adjust for different horizontal resolutions
    - `sels` messages, to convert YUV from/to RGB
    - `ppic` messages, to convert the resolution of backgrounds for use on other Grass Valley Graphics systems
    - `dbmp` messages, to convert 256 color Microsoft Windows bitmap files to Presto/K-Series backgrounds
    - `stil` messages, to convert Graphics Factory full color images to Presto K-Series backgrounds
    - imag messages, to convert Painter images to Presto/K-Series backgrounds

  The conversion process quantizes pictures, reducing the number of colors in the resulting background. A complete description of how to use this function is included with these release notes .
- You can convert Microsoft Windows 256 color bitmap files to Presto/K-Series format using **Dir T**
- You can change the playback parameters of an animation while it is running
- You can adjust the horizontal position of images grabbed with the KolorGrab
- You can now configure **Read-Next** in black and white preview mode to transfer the current image in preview to on air using **Confg R**

Functional changes

- You can no longer install the program when initializing a disk. These are separate functions
- International keyboard layouts no longer are displayed with **Confg N.** See the Appendix of the User's guide
- Several functions that used to be accessed via the **Confg** selection menu have been moved to a new prompt menu: **Confg R**, "Set user preferences"
- The function **Confg Y D**, to display the current configuration has been removed. Use **Confg D**
- For creating a sized font from a non-Bezier master, there are two filters called `narrow` and two called `wide`. The first two `narrow` and `wide` filters have been renamed `sharp (narrow gaussian)`, `soft (wide gaussian)`. In most cases gaussian filters give better results than non-gaussian filters. The `sharp (narrow gaussian)` filter looks best when the final output is component, but may produce aliasing artifacts if encoded. The `soft (wide gaussian)` filter looks best when the final output is encoded, but may look fuzzy if the final output is component. This is due to the band-width limitations of encoded video. We provide a variety of filters so that you may choose the filter that is best for your application
- The command `print` has been renamed `print_msg` to eliminate the conflict with the **"K"** command `print`
- The commands `sum`, `diff`, `mult`, and `div` now return a value when used in a **"K"** program They also now have a new parameter `-d`, which displays the result on the status monitor
- The command `fchar` has been removed
- **Help** information for many commands have been improved
- The command `fsize` no longer defaults to master font "60001" and new font "1"
- The effect "Klimb" has been renamed "Climb separately"
- The effect "Dealer's choice" has been renamed "Random effect"
- A scanned image can now be recorded as a `stil` message. Quantize this message in a separate step using **Dir T**
- In the command `ramp`, the `x` and `y` parameters now have priority over the `h` and `w` parameters
- The function **Disk-Util Z** to set the default interleave for Iomega Alpha disks has been removed. Use **Confg R**

Fixes

- Program install, copy, convert, duplicate disk, directory check, disk verify now work properly on single drive systems
- Czech, Icelandic and Greek keyboards now access all characters properly
- Keyboard language "Finnish" is now called "Swedish/Finnish"
- Disk reorganize no longer misses usable sectors
- Disk rebuild now works for disks other than Iomega alphas
- Clocks now work properly with standard and preset color fonts
- **Help** no longer causes functions to proceed
- System no longer asks for user to insert a non-removable disk
- **Tab** in insert mode at end of row no longer inserts a new row
- Clocks no longer clear to the wrong screen color
- Rolls now use proper screen color
- Reading a sequence from the message directory display now works properly
- Magmove no longer puts an opaque box around some images
- Animations now report the current speed properly
- System no longer allows illegal animations to be played or separated
- When translucency is disabled, **Erase-Bkgd** no longer fails to re-enable translucency
- **Quit** out of **Font A** no longer fails to save partial font when so requested
- In a sequence, slow reveal by rows (SR) and climb by rows (KR) now work
- Leaving clocks no longer causes `bad row` error
- Combine no longer fails to get proper fonts for text messages
- K-Paint brush color's opacity now correct when selecting a paint pot
- Text now appears properly in Presentation Graphics
- The 20-K no longer crashes when reading certain Presentation Graphics slides
- Background animations now work properly
- Lines painted over ellipses and boxes now blend properly
- Combining an animation with something else (e.g. text, ppic) no longer uses the wrong palette for some frames
- Glitches no longer appear on the screen when displaying some complicated pictures
- The 20-K no longer attempts to type preset color characters that have more than 256 colors (e.g. from Graphics Factory)

KolorGrab

You can now adjust the horizontal position of images grabbed with the KolorGrab.

Bgkd K
displays the KolorGrab selection menu. The new menu item:

H
displays the "Horizontal Position" prompt menu.

You can adjust the horizontal position of the incoming video left or right up to 10 pixels.

Next
Moves the picture to the left one pixel.

Prev
Moves the picture to the right one pixel.

The horizontal position counter displays the adjustment amount.

The amount of adjustment necessary varies depending on the timing of the 20-K relative to its external reference. If you find that you can't bring the picture in line on the 20-K with the maximum amount of horizontal shift, check the 20-K's timing.

The KolorGrab must be powered on and connected to the 20-K when the 20-K boots. The 20-K's bootstrap program scans the SCSI bus for devices only at boot time. If the KolorGrab is not turned on or is disconnected when the 20-K is booting, the 20-K can't find it and will assume that it isn't there. If the 20-K does not find the KolorGrab, the **Bkgd** selection menu will not have the menu item **K**. If this is the case or if the 20-K displays the error message `KolorGrab not on SCSI Bus`, make sure the KolorGrab is powered on and attached to the 20-K's SCSI connector. Then reboot the 20-K. If this doesn't help, then something may be wrong with the connections to the SCSI bus. Check the following:

- Are all connectors plugged in securely?
- Is there one and only one terminator at the end of the bus? Are any drives terminated internally?
- Do all SCSI devices connected to the 20-K have a unique SCSI id?
- Is the cable good?

Converting Messages

The various Grass Valley Group graphics systems have different characteristics. Convert messages created on one machine to use on another if they

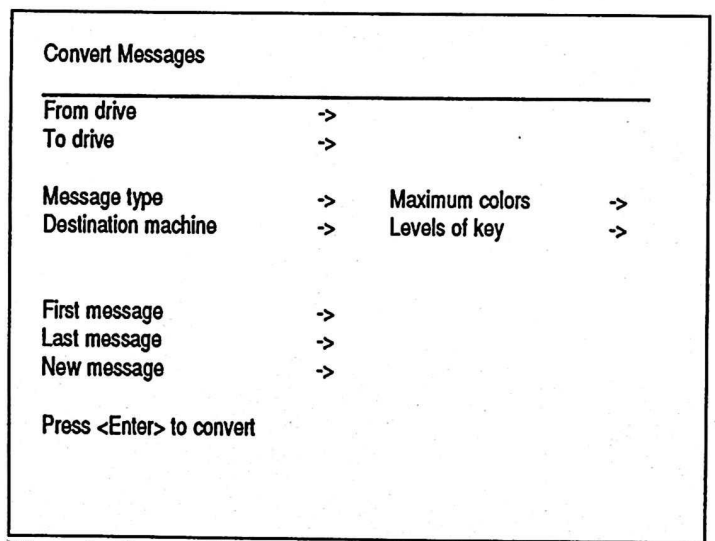
- have a different number of pixels per scan line
- cross video standards (e.g., PAL to NTSC)
- have too many colors

The 20-K displays up to 256 colors. The millions of colors that are possible in a full-color image must be reduced to a number that the 20-K can display. Convert determines the limited selection of colors that best represent the image. The result is always a background, with the exception of text, tabs and sels. You can also convert a background to reduce its number of colors.

To convert messages, press .

Dir T

Displays the Convert Messages prompt menu:



Menu 6. Convert Messages

`From drive ->`

The drive containing the messages to be converted.

`To drive ->`

The drive where the messages are to be recorded.

`Message type ->`

`msgs`

All of the following message types:

`ppic`
Backgrounds

`stil`
Graphics Factory full-color images

`imag`
Painter and Still Store full-color images

`dbmp`
Windows 256 color bitmap images

`text`
Text messages. Scales the spacing between characters. *NOTE:* Recreate the fonts that were used in the text message.

`tabs`
Tab stop messages. Scales the spacing between the tab stops

`sels`
Selector messages. If the destination machine is YUV, `sels` converts the Selector colors from RGB to YUV; if the destination machine is RGB, `sels` converts the Selector colors from YUV to RGB

`Destination machine` ->
The 20-K converts the messages based on the requirements of the destination machine.

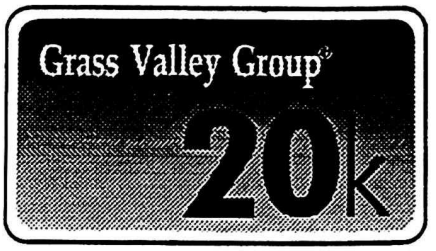
`Maximum colors` ->
The maximum number of colors of the converted background. The maximum colors can not be greater than the limit set by the destination machine (256 or 1024). Convert limits you to six fewer colors than the limit, saving colors for anti-aliased text over the background. (Anti-aliased fonts use many colors.) Use as few colors as possible when you convert. This field does not apply to `text`, `tabs` or `sels`.

`Levels of key` ->
Anti-aliasing shades (0, 4, 8, 16, 32). The greater the number the smoother the key blending. This field does not apply to `text`, `tabs` or `sels`.

`First message` ->
The first message to be converted.

`Last message` ->
The last message to be converted. The named message types from `First message` to `Last message` in the directory is converted. If you leave `Last message` blank, only `First message` is converted.

`New message` ->
The message(s) is recorded at `New message`.



Software Version 3.2

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THE GRASS VALLEY GROUP®
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A TEKTRONIX COMPANY

20-K Software Version 3.2

Software version 3.2 for the Grass Valley Group 20-K character generator adds several new features and corrects problems found in prior versions.

New Features

- The 20-K now supports the Grass Valley Group SCSI MUX II. The SCSI MUX II allows multiple Grass Valley Group graphics products to share disk drives. For more information, contact your Grass Valley Group representative.
- The 20-K now supports the Iomega Bernoulli MultiDrive 150 and the Pinnacle PMO-130 disk drive.
- The new command `scsi` displays or reconfigures the 20-K's SCSI interface parameters. See the "Presto 200 User's Guide, Rev. C" for a complete description.
- Interface software to color scanner is now standard.
- The new command `screen` with parameters `r= g= b=` sets the screen color.
- The privileging screen (**Misc O**) now shows individual font options.
- The new command `insert` with no parameters toggles insert mode; with parameter of 0 turns insert mode off (typeover); with parameter of 1 turns insert mode on.

- The Reduce Colors prompt menu (**Bgd Q**) has a new field: `Add noise->` If you specify `yes` noise is added to the picture data as the number of colors are reduced, resulting in a smoother looking picture (see **Dir T**). This feature is also available in the corresponding command `qrgb` by using the parameter `-noise`.

- The horizontal offset range for KolorGrab has been increased.

- The new command `kgrab_offset` sets the gains, offsets, and horizontal offset for the KolorGrab.

- The Convert Messages function (**Dir T**) now converts TARGA files for display on the 20-K. TARGA formats supported (data type - field 3) are:

1	Uncompressed, color-mapped (VDA/D and TARGA M-8) images
2	Uncompressed, RGB images (e.g., ICB, TARGA 16, TARGA 24, TARGA 32)
9	Run-length encoded color-mapped (VDA/D and TARGA M-8) images
10	Run-length encoded RGB (ICB, TARGA 16, TARGA 24, TARGA 32) images

- The 20-K now automatically scales the inter-character and inter-word spacing (and converts the color palette, if necessary) of `text` and `tabs` messages created on other Grass Valley Group graphics devices. You no longer need to convert these messages with **Dir T**. This automatic conversion does not scale the horizontal resolution of the fonts used in the `text` message. Use fonts scaled for the 20-K.

  The `text` or `tabs` message is converted when it is read from the disk, but the recorded message on the disk is not altered. Use **Dir T** to permanently convert the recorded message.

Functional changes

- In Convert Messages (**Dir T**), `Add noise-> yes` now produces better results.
- Rolls and crawls now roll or crawl over the current screen color, not the screen color of the first message.
- In the command `dos`, the parameter `DOS drive` now comes before the parameter `DOS filename`. You no longer have to specify file name when using the function `dir`.
- KolorGrab and Message Convert quantizing now scales palettes to 100%.
- KolorGrab default levels of key is now 0.

Fixes

- Keyboard configurations for Dvorak and Esperanto can now be selected properly.
- The Brazilian keyboard is no longer associated with Spanish; it is now associated with Portuguese. Our apologies to our Brazilian friends.
- The 20-K no longer runs out of memory when creating a large (350 scanline) font.
- The 20-K no longer runs out of memory when recording large text messages.
- The command `xform` no longer fails to display cursor and safe title lines.

- The command `dos` now handles partitioned disks.
- The 20-K now shows elapsed time during disk format.
- Exiting K-Paint no longer fails to free up two colors.
- The command `dos export` no longer fails when writing to an empty DOS disk.
- In the K command `substr`, the parameter `length` is now optional.
- The result of the command `fade` no longer fails to be permanent.
- Converting `tabs` messages (**Dir T**) now works properly.
- Combining complicated backgrounds into an animation no longer fails after the first frame.
- Printing a `text` message with tabs no longer fails to print the text portion of the message.
- K-Paint no longer fails to display the name of the background being painted.
- 10-Ks no longer fail to automatically configure a floppy drive.
- 20-K weather systems no longer fail to report errors that occur when first entering weather mode.
- Assigning fonts to selectors no longer runs out of memory.